

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 305, INSERT AS FOLLOWS:

**801.10 Temporary ~~Concrete~~ Traffic Barriers.**

Temporary ~~concrete~~ traffic barriers shall be one of the following three types as shown on the plans.

**Type 1.**

Type 1 temporary traffic barriers shall be used to separate two-way traffic and shall be precast concrete in accordance with applicable requirements of 707 and 602 and as shown on the plans. Type 1 barriers may also be used to separate traffic from the work zone. The surfaces of individual precast units shall vary no more than 6 mm (0.25 in.) in 3 m (10 ft) from the specified cross section, as measured from a longitudinal straightedge. The maximum variation in the vertical and horizontal alignment of adjacent units shall be 6 mm (0.25 in.) across the joint, as measured from a 3 m (10 ft) longitudinal straightedge. Sections that have obvious defects or visual cracks shall not be used. Sections that develop any of these conditions during the contract shall be repaired with concrete or replaced within a reasonable amount of time.

Units precast after March 1, 2003 shall be clearly marked with the name or trademark of the manufacturer, the year of manufacture, and "INDOT". The markings shall be indented on an end or on the top of each barrier section. Units Precast prior to 2003 shall not be used after January 1, 2012.

**Type 2.**

Type 2 barriers may be used to separate traffic from the work zone. Type 2 temporary traffic barriers shall meet the appropriate test level 2 or 3 NCHRP 350 crash test standards and shall be approved for use by the FHWA. A 350 crash test standard certification and a letter of approval from the FHWA shall be provided the Engineer prior to placing the unit. The unit selected shall be appropriate for the location considering the maximum posted speed limit on the project and the allowable area for deflection. The unit shall be installed according to the manufacturer's recommendations.

If concrete barriers are used as type 2 barriers, they shall be in accordance with the requirements for type 1 barriers.

**Type 3.**

Type 3 temporary traffic barriers shall be those type 1 temporary traffic barriers that are to be left in place at the completion of the contract and shall become the property of the Department. They shall be like new at the completion of the contract. All necessary delineation and required anchor systems shall be left in place.

**Type 4.**

Type 4 temporary traffic barriers shall be those types that are intended to be readily moveable to accommodate the shifting of traffic lanes on a daily basis to better facilitate the changing volumes of traffic during the peak hours of a day. Type 4 temporary traffic barriers shall meet the appropriate test level 3 NCHRP 350 crash test standards and shall be approved for use by the FHWA.

**(a) Placement**

~~Temporary concrete~~ traffic barriers shall be located as shown on the plans or as directed. ~~Temporary concrete~~ traffic barriers located along a tapered alignment shall be flared at the rates as shown on the plans for the applicable regulatory speed within the construction zone. If field conditions are such that the required flare rate cannot be utilized, the tapered alignment may be altered, with approval, to a 10:1 flare rate with a 6 m (20 ft) minimum offset from the edge of the through traffic lane to the approaching end of the flared temporary ~~concrete~~ traffic barrier. If field conditions are such that the 10:1 flare rate cannot be utilized, the tapered alignment may be further altered, with approval, to a 6:1 flare rate with the 6 m (20 ft) minimum offset. The use of flare rates sharper than those shown on the plans may require additional traffic control devices as directed.

Type 2 barriers shall not be intermixed with type 1 or type 3 barriers in any run.  
Type 2 barriers from different manufacturer's shall not be intermixed in any run.

**(b) Connection.**

~~Temporary concrete~~ Type 1 and type 3 barrier sections shall be connected as follows:

1. The adjacent barrier sections shall be placed end to end, with sufficient overlapping of the smooth bar hooks to allow placement of the connecting bolt or threaded rod and the top spacer.
2. The adjacent barrier sections shall then be moved in opposite directions for a sufficient distance to develop the maximum contact between the smooth bar hooks and the connecting bolt or threaded rod.
3. The bottom spacer and nut shall then be placed as shown on the plans. The nut shall be sufficiently tightened to eliminate all gaps between the adjacent bolt heads, spacers, nuts, and washers which form the connection.

Type 1 and type 3 precast units which have previously been cast meeting earlier Department standards may be used. The Contractor will be allowed to mix type 1 and type 3 units in a run as long as the units are in good condition and the connecting devices are compatible. If units meeting earlier Department standards are used, a 25 mm (1 in.) bolt will be allowed to link the units together. The spacer detail shall, however, be in accordance with the current design. Units cast after March 1, 2003 shall be linked with the 30 mm (1 1/4 in.) bolt.

Type 2 temporary traffic barriers shall be connected as recommended by the barrier manufacturer.

**(c) Anchorage.**

~~Temporary concrete~~ Type 1 and type 3 temporary traffic barriers shall be anchored in accordance with the methods shown on the plans, at the locations described herein. Type 2 barriers shall be anchored as recommended by the barrier manufacturer and at locations described herein. ~~Temporary concrete barrier~~ traffic barriers shall be anchored when located on or within 18 m (60 ft) of a bridge, and along tapered

alignments. Anchoring at locations in addition to those described herein will be required when directed.

Chemical anchor systems with removable bolts, or mechanical anchors may be used to anchor ~~temporary concrete~~ type 1 barriers to bridge decks, concrete pavement, and concrete shoulders. Mechanical anchors may be ferrous or non-ferrous material. All anchors shall have a shear strength of 44.5 kN (10,000 lb) and an ultimate pullout strength of 29 kN (6,500 lb).

Non-ferrous mechanical anchors shall be installed such that the top end of the sleeve is a minimum of 60 mm (2 1/2 in.) below the final finished concrete surface.

Ferrous mechanical anchors shall be completely removed when no longer required. All damage to the concrete shall be repaired as directed with no additional payment.

Non-ferrous anchor sleeves and the chemical adhesive component of chemical anchor systems may remain in place when no longer required. The holes remaining in the concrete, after the removal of the bolts used with non-ferrous mechanical anchors and chemical anchor systems, shall be filled with appropriate material as directed, with no additional payment.

**(d) Delineation.**

~~Temporary concrete~~ Type 1 barriers used to separate two-way traffic shall be delineated with top mounted temporary barrier delineators and with side mounted delineators. The top mounted delineators shall be two-sided, shall be yellow, and shall be placed on every other section of barrier wall ( $\pm 6$  m or 20 ft spacing). The top mounted delineators shall be mounted perpendicular to the direction of traffic flow. The side mounted delineators shall be yellow and shall be mounted in accordance with 602.03(f).

Temporary ~~concrete~~ traffic barriers in locations other than separating two-way traffic shall be delineated with either type C construction warning lights or top mounted temporary barrier delineators and with side mounted barrier delineators. The type C lights or the top mounted barrier delineators shall be spaced at the number of meters equal to 0.3 times (number of feet equal to) the number of miles per hour in the posted speed limit with a minimum spacing of 6 m (20 ft). Bi-directional lenses will be required on the warning lights when the barrier is adjacent to a lane that is carrying alternating one way traffic. The color of the barrier delineators shall be white when located on the right side of the traffic lane, and yellow when located on the left side of the traffic lane. The color of the barrier delineators shall be white when located adjacent to a lane that is carrying alternating one-way traffic.

Where the temporary ~~concrete~~ traffic barrier is located along a tapered alignment and is located behind drums or other reflective delineation devices, the type C construction warning lights and barrier delineators shall not be used.

**(e) End Treatment.**

Where possible, the ends of temporary traffic barriers shall be flared and continued to a point outside the construction clear zone. The flare rates shall be in accordance with 801.10(a). Where conditions do not allow the temporary traffic barrier to be flared beyond the construction clear zone, appropriate end treatments shall be

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incorporated to protect the ends of the barriers from errant vehicles. Where necessary, construction zone impact attenuators shall be placed. The impact attenuators shall have re-direct capability.

**(f) Storage.**

No wall segments shall be stored on site unless written permission is given by the Department.

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Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y___ N___ By - Additional or Revision
NONE	Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
NONE	801-TCCB-01 thru 04
Motion: Mr.	Action: Passed as submitted; revised
Second: Mr.	Effective - _____ Letting
Ayes:	_____ Supplementals
Nays:	Withdrawn. Resubmit? _____
	Received FHWA Approval? _____